29. A manufacturing method of electrolytic capacitor of claim 21, wherein at said step (c), said solid organic conductive material of at least one of organic semiconductor and conductive polymer is formed, then said positive electrode having said solid organic conductive material is immersed in a soluble polymer solution and then dried so that a residual dry polymer of said soluble polymer solution is formed on the surface of said solid organic conductive material.

SEE APPENDIX FOR CHANGES MADE TO THE SPECIFICATION AND CLAIMS

REMARKS

I. OBJECTION TO CLAIM 29

Claim 29 is objected to for minor informalities. In order to expedite prosecution, claim 29 has been amended solely to remove the alleged informality and not for overcoming the cited prior art. Accordingly, it is respectfully requested that the objection to claim 29 be removed.

II. CLAIMS 21-32 ARE FULLY ENABLED

Claims 21-32 stand rejected under 35 U.S.C. § 112, first paragraph (enablement). Claim 21 has been amended to replace "electrode" with --electrolyte--. Support for this change can be found, for example, on page 15, lines 7-11 and Figure 1(b) of Applicants' specification. Accordingly, it is respectfully requested that the rejection of claims 21-32 under 35 U.S.C. § 112, first paragraph, be withdrawn.

III. CLAIM 30 IS DEFINITE

Claim 30 stands rejected under 35 U.S.C. § 112, second paragraph. The alleged indefiniteness has been removed by the amendment to claim 21. Accordingly, it is respectfully requested that the rejection of claim 30 under 35 U.S.C. § 112, second paragraph, be withdrawn.

IV. CLAIMS 21-23, 25-30 AND 32 ARE PATENTABLE OVER JP '517 IN VIEW OF KOBAYASHI ET AL.

Claims 21-23, 25-30 and 32 stand rejected under 35 U.S.C. § 103 over JP '517 in view of Kobayashi et al. ('052). This rejection is respectfully traversed because (1) the proposed combination does not disclose or suggest the claimed invention, and, (2) the proposed combination is improper.

A. Proposed combination does not disclose claimed invention

Claim 21 recites in pertinent part, "fabricating a positive electrode, fabricating a negative electrode, [***and***] forming a solid organic conductive material on the surface of said positive electrode" (emphasis added). By such a process, a solid organic conductive material can sufficiently be applied to the inside pits of the anode so as to improve the impedance characteristic (*see, e.g.*, page 8, lines 13-19 of Applicants' specification).

The Examiner admits that JP '517 does not disclose forming the solid organic conductive material on the surface of the positive electrode and therefore relies on Kobayashi et al.. However, in the capacitor-type disclosed by Kobayashi et al., the alleged organic conductive material is arranged ***as the cathode*** (*see* col. 1, lines 20-21). That is, Kobayashi et al. does not disclose or suggest positioning a solid organic conductive material on the surface of an anode which opposes a ***separate*** cathode.

Accordingly, at best, the proposed combination would result in a structure in which the cathode 3 of JP '517 was ***replaced*** with the alleged organic conductive material of Kobayashi et al.. The Examiner is directed to MPEP § 2143.03 under the section entitled "All Claim Limitations Must Be Taught or Suggested", which sets forth the applicable standard:

> To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)).

In the instant case, the pending rejection does not "establish *prima facie* obviousness of [the] claimed invention" as recited in claim 21 because the proposed combination fails the "all the claim limitations" standard required under § 103.

B. Proposed combination is improper

Moreover, it is respectfully submitted that the proposed combination is improper because the Examiner has not provided the requisite ***objective*** evidence ***from the prior art*** that "suggests the desirability" of the proposed combination. The Examiner alleges that the motivation for the modification is "to obtain [a] capacitor of high reliability." As a preliminary matter, there is no evidence ***from the prior art*** that forming the organic conductive material of JP '517 on the surface of the positive electrode, rather than on the separator as disclosed by JP '517, would create a more reliable capacitor.

Further, it is respectfully submitted that the purported motivation is not derived from Kobayashi et al.. In particular, Kobayashi et al. is completely silent as to the benefits of forming the solid organic conductive material on the surface of the positive electrode, ***as opposed to the separator as taught by JP '517***. As mentioned above, Kobayashi et al. is directed to a capacitor-type in which the organic conductive material

is arranged as the cathode to dually function as a ***solid*** electrolyte (without a liquid electrolyte), so that the placement of the organic conductive material on the anode is merely incidental to the configuration of the disclosed capacitor-type.

Kobayashi et al. is completely unrelated to the capacitor-type of JP '517. JP '517 uses a separate cathode and ***liquid*** electrolyte, whereby the organic conductive material functions only as a low resistivity conductor for decreasing the resistance of a ***separator***. The organic conductive material of JP '517 does not function as an electrolyte nor as a cathode, and Kobayashi et al. does not appear to utilize separator paper as used in JP '517. Accordingly, the teachings of Kobayashi et al. are not related, and therefore not applicable, to the capacitor-type disclosed by JP '517.

In fact, the primary purpose of JP '517 is to increase the conductivity of the ***separator*** by forming the organic conductive material on the separator. Accordingly, it is submitted that JP '517 ***teaches away*** from the proposed modification of forming the organic conductive material on the surface of the anode (rather than separator) and further, the proposed modification would render JP '517 unsatisfactory for its intended purpose.

The Examiner is directed to MPEP § 2141.02 under the section entitled "Prior Art Must Be Considered in its Entirety, Including Disclosures that Teach Away from the Claims", which sets forth the applicable standard:

> A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. (citing *Gore v. Garlock*, 220 USPQ 303 (Fed. Cir. 1983)).

In the instant case, the teachings of "[JP '517] ... would lead away from the claimed invention" because JP '517 expressly teaches forming organic conductive material specifically on the ***separator*** for increasing the conductivity thereof rather than on the

surface of the anode. The Examiner is further directed to MPEP § 2143.01 under the section entitled "The Proposed Modification Cannot Render the Prior Art Unsatisfactory for its Intended Purpose", which sets forth the applicable standard:

> If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. (citing *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984)).

In the instant case, the "proposed modification would render [JP '517] unsatisfactory for its intended purpose [so that] there is no suggestion or motivation to make the proposed modification" because, as mentioned above, the primary purpose of JP '517 is based on forming the organic conductive material on the ***separator***.

It is respectfully submitted that only Applicants' specification provides the requisite motivation for forming the solid organic conductive material on the surface of the positive electrode. For example, as discussed on page 6, lines 2-10 of Applicants' specification, the combination of the solid organic conductive material formed on the positive electrode and the electrolyte having a repair capability of the dielectric oxide film provides an electrolytic capacitor with extremely low inter-polar resistance, low leak current and high dielectric strength (i.e., a high withstand voltage). In contrast, the solid electrolytic capacitor of Kobayashi et al. does not have enough low leak current and high dielectric strength because it can not repair the oxide film effectively, which characteristic is based on having an entirely solid structure (e.g., no liquid electrolyte in the body of the capacitor).

As is well known in patent law, a *prima facie* showing of obviousness can only be established if the prior art "suggests the desirability" of the proposed combination using ***objective*** evidence. The Examiner is directed to MPEP § 2143.01 under the subsection

entitled "Fact that References Can Be Combined or Modified is Not Sufficient to Establish *Prima Facie* Obviousness", which sets forth the applicable standard:

> The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. (*In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990)).

In the instant case, even assuming *arguendo* that JP '517 can be modified by Kobayashi et al., it is submitted that the "mere fact that [JP '517 and Kobayashi et al.] can be combined ... does not render the resultant combination obvious" because nowhere does the ***prior art*** "suggest the desirability of the combination" as set forth by the Examiner.

The Examiner is further directed to MPEP § 2143.01 under the subsection entitled "Fact that the Claimed Invention is Within the Capabilities of One of Ordinary Skill in the Art is Not Sufficient by Itself to Establish *Prima Facie* Obviousness", which sets forth the applicable standard:

> A statement that modifications of the prior art to meet the claimed invention would have been [obvious] because the references relied upon teach that all aspects of the claimed invention were ***individually*** known in the art is ***not*** sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. (citing *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993)).

In the instant case, even assuming *arguendo* that JP '517 and Kobayashi et al. "teach that all aspects of the claimed invention [are] individually known in the art", it is submitted that such a conclusion "is not sufficient to establish a *prima facie* case of obviousness" because there is no ***objective*** reason on the record to combine the teachings of the cited prior art. In contrast, JP '517 and Kobayashi et al. are completely silent as to suggesting the ***combination*** of forming a solid organic conductive material on the surface of the

positive electrode, and disposing an electrolyte between the positive electrode having the solid organic conductive material and the negative electrode.

It is respectfully submitted that the Examiner relied solely on improper hindsight reasoning, whereby the Examiner selected bits and pieces of the prior art and used only Applicants' specification as a guide to reconstruct the claimed invention. At best, the Examiner attempted to show only that the elements of the claimed invention are ***individually*** known without providing a *prima facie* showing of obviousness that the ***combination*** of elements recited in the claims is known or suggested in the art. For all the foregoing reasons, it is submitted that the proposed combination of JP '517 and Kobayashi et al. is improper.

V. CLAIMS 24 AND 31 ARE PATENTABLE OVER THE CITED PRIOR ART

Claims 24 and 31 stand rejected under 35 U.S.C. § 103 over JP '517 in view of Kobayashi et al. and Inoue et al. ('273). Claim 31 has been canceled rendering the rejection thereto moot. This rejection is respectfully traversed for the following reasons.

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, ***Hartness International Inc. v. Simplimatic Engineering Co.***, 819F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 21 is patentable for the reasons set forth above, it is respectfully submitted that claims dependent thereon are also patentable. In addition, it is submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

For example, with respect to claim 24, Inoue et al. has a U.S. filing date of April 14, 1998. The present application has an effective filing date based on foreign priority document JP 10-015269 filed on January 28, 1998. Accordingly, as JP 10-015269 has an earlier effective filing date than Inoue et al., and because JP 10-015269 provides support for the subject matter recited in claim 24, it is submitted that Inoue et al. is NOT prior art to the present application. Submitted under separate cover is a certified English translation of JP 10-015269 and JP 10-350072 in order to perfect Applicants' claim to foreign priority. Based on all the foregoing, it is respectfully requested that the rejection of claim 24 under 35 U.S.C. § 103 over JP '517 in view of Kobayashi et al. and Inoue et al., be withdrawn.

VI. CONCLUSION

Having fully and completely responded to the Office Action, Applicants submit that all of the claims are now in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

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APPENDIX

IN THE SPECIFICATION

The paragraph beginning on page 1, the fourth line from the bottom, has been amended as follows:

--Also as an attempt to make the separator conductive, various methods have [bec] been proposed, such as kneading or mixing of carbon fibers or particles, and compounding with graphite powder. Moreover, by using monomer such as pyrrole, thiophen or aniline, a method of forming a conductive high polymer on the surface by chemical oxidation and polymerization is disclosed (see Japanese Laid-open Patent No. 64-90517).--

The paragraph beginning on page 4, line 3 has been amended as follows:

--A manufacturing method of electrolytic capacitor of the invention comprises:

(a) a step of fabricating an anode,

(b) a step of fabricating a cathode,

(c) a step of forming a solid organic conductive material on the surface of the anode, and

(d) a step of disposing an [electrode] electrolyte between the anode having the solid organic conductive material and the cathode.--

The paragraph beginning on page 7, line 8 has been amended as follows:

--In the invention, the word of "anode" means "positive electrode", and the word of "cathode" means ["negztive electrode"] "negative electrode". The word of "conductive high polymer" means "conductive polymer".--

The paragraph beginning on page 15, line 21 and ending on page 16, line 20 has been amended as follows:

--Fig. 2 (a) to Fig. 2 (g) show the manufacturing process for manufacturing the anode foil 1 for electrolytic capacitor of the invention in batch. As shown in Fig. 2 (a), an etching foil 22 (Fig. 2 (b)) obtained by etching an aluminum foil 21 is oxidized. In this way, an anode foil 1 forming a dielectric oxide film 11 is formed (Fig. 2 (c)). Successively, this anode foil 1 is impregnated in a solution 23 containing a polymerizable monomer capable of forming a conductive high polymer layer as shown in Fig. 2 (d), and lifted, then heated (also dried) by a heating oven 24 as shown in Fig. 2 (e). Thus, as shown in Fig. 2 (f), an anode foil 1 forming a solid organic conductive material 2 on the surface is composed. Next, as shown in Fig. [1] 2 (g), thus constituted anode foil 1 and the cathode foil 3 formed by etching the aluminum foil 21 are wound through a separator 4. In this way, a capacitor element 12 is composed. The subsequent process is same as in the above manufacturing method. The capacitor element 12 is put into a cylindrical metallic case 8 with a bottom together with electrolyte 10. The releasing end of the metallic case 8 is sealed, by using a sealing member 7, so that an anode lead 5 and a cathode lead 6 for external lead-out being led out from the anode foil 1 and cathode foil 3 respectively may penetrate through the sealing member 7. Thus, the side of the metallic case 8 is covered with an external tube 9.--

IN THE CLAIMS

21. (Amended) A manufacturing method of electrolytic capacitor comprising the steps of:

(a) fabricating a positive electrode,

(b) fabricating a negative electrode,

(c) forming a solid organic conductive material on the surface of said positive electrode, and

(d) disposing an [electrode] electrolyte between said positive electrode having said solid organic conductive material and said negative electrode.

29. (Amended) A manufacturing method of electrolytic capacitor of claim 21, wherein at said step (c), said solid organic conductive material of at least one of organic semiconductor and conductive polymer is formed, then said positive electrode [forming] having said solid organic conductive material is immersed in a soluble polymer solution[,] and then [it is] dried [and] so that a residual dry polymer of said soluble polymer solution is formed on the surface of said solid organic conductive material.